

WHAT IS CLAIMED IS:

1. A wireless unit comprising:
  - a first communication port;
  - a communication port controller responsive to first data received at said
  - 5 first communication port to buffer said first data;
  - a second communication port configured to couple to an audio input line;
  - a codec responsive to a sampling interrupt to generate an audio sample
  - from available audio data received at said second communication port;
  - a wireless modem responsive to a first signal to encode said first data in a
  - 10 first frame, and responsive to a second signal to encode said audio sample in a
  - second frame; and
  - a radio transceiver responsive to said first signal and to a frame interrupt
  - to transmit an RF signal frame representing said first frame, and responsive to
  - 15 said second signal and to said frame interrupt to transmit an RF signal frame
  - representing said second frame.
2. A wireless unit comprising:
  - a microcontroller;
  - a data memory;
  - 20 a computer communication port;
  - an outgoing data buffer storing data bits received at said computer
  - communication port;
  - an auxilliary communication port configured to receive audio input;
  - a codec;
  - 25 a frame buffer storing bits to be represented by an RF signal;
  - a sample transfer routine comprising instructions stored in said data
  - memory, said instructions executable by said microcontroller, said sample
  - transfer routine responsive to a codec interrupt to transfer available first audio
  - 30 samples received at said auxilliary communication port to said codec, and to
  - transfer available second audio samples from said codec to said frame buffer;
  - and

a data transfer routine comprising instructions stored in said data memory, said instructions executable by said microcontroller, said data transfer routine responsive to said codec interrupt to transfer data from said outgoing data buffer to said frame buffer.

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3. The wireless handset of Claim 2, further comprising:

a radio transceiver;

a frame receive buffer storing bits representing RF signals received by said radio transceiver; and

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an incoming data buffer storing data bits transferred from said frame receive buffer by said data transfer routine in response to said codec interrupt.

4. The wireless handset of Claim 2, further comprising:

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a data communication establishment routine comprising instructions stored in said data memory, said instructions executable by said microcontroller, said data communication establishment routine responsive to a data communication signal at said computer communication port to disable said sample transfer routine and to enable said data transfer routine.

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5. A method for communicating voice and data signals, said method comprising:

determining if a first analog audio sample is available at a communication port of a wireless communication device;

if the first analog audio sample is available:

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converting said first analog audio sample to a first digital audio sample;

compressing said digital audio sample to a create a first compressed audio sample;

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generating first RF signals to represent said first compressed audio sample;

transmitting with a radio transceiver said first RF signals in a first RF signal frame;

receiving with said radio transceiver a second RF signal frame including second RF signals;

5 decompressing said second RF signals to create a second digital audio sample;

converting said second digital audio sample to a second analog audio sample;

10 transmitting said second analog audio sample to an audio output of said wireless communication device;

receiving first data at a communication port of said wireless communication device;

generating third RF signals representing said first data; and

15 transmitting with said radio transceiver said third RF signals in third and fourth consecutive RF frames if said first analog audio sample is available, said radio transceiver receiving no RF frame between said transmission of said third and fourth RF frames.

20 6. The method of Claim 5 wherein said first, second, third and fourth RF frames have the same duration and are transmitted at the same frequency, and wherein the number of data bits represented in said fourth RF frame exceeds the number of data bits represented in said third RF frame and also exceeds the number of compressed audio sample bits represented in said first and second RF frames.

25 7. The method of Claim 6 further comprising:  
determining that a different frame format protocol will be used;  
completing the transfer of any data in data buffers of said wireless communication device;  
30 transmitting an RF data frame to a second wireless communication device, said RF data frame specifying said different frame format protocol; and

establishing a new wireless link wherein said wireless communication device and said second wireless communication device use said different frame format protocol.